Name :: Azaz ahmad

ID No;;16551

Sec:: A

Paper ,,General phormocology

Deciplain :: Bs MLT

QNO ::1

**(A)**

## **drug** **interaction**

Drug interactions involve combinations of a medication with other substances that alter the medication’s effect on the body. This can cause the medication to be less or more potent than intended or result in unexpected side effects.

If you use multiple medications, have certain health conditions, or see more than one doctor, you should be especially mindful of your medications. You also need to make sure that each of your doctors know all of the drugs, herbs, supplements, and vitamins you’re using.

Even if you take only one medication, it’s a good idea to talk with your doctor or pharmacist about what you’re using to identify possible interactions. This advice applies to both prescription and nonprescription drugs

**Types** of **Drug** **Interactions**

Drug-drug: A reaction between two or more drugs. ...

Drug-food: When food or beverage intake alters a drug's effect. ...

Drug-alcohol: Certain medications that should not be taken with alcohol. ...

Drug-disease: The use of a drug that alters or worsens a condition or disease the person has

**(B)**

ANS:: **Pharmacodynamic interactions**.

The term “**pharmacodynamic interactions**” refers to **interactions** in which **drugs** influence each other's effects directly. As a rule, for example, sedatives can potentiate each other. The same is true of alcohol, which can potentiate the sedative effects of many **drugs**.

Drug interactions can have desired, reduced or unwanted effects. The probability of interactions increases with the number of drugs taken. The high rate of prescribed drugs in elderly patients (65-year-old patients take an average of 5 drugs) increases the likelihood of drug interactions and thus the risk that drugs themselves can be the cause of hospitalization. According to meta-analyses, up to 7% of hospitalizations are drug-related

### **Methods**

Selective literature review.

### **Results**

Drug interactions occur on pharmacodynamic and pharmacokinetic levels. Examples of pharmacodynamic interactions are simultaneous administration of a NSAID and phenprocoumon (additive interaction), or of aspirin and ibuprofen (antagonistic interaction). Pharmacokinetic interactions occur at the levels of absorption (e.g., levothyroxine and neutralizing antacids), elimination (e.g., digoxin and macrolides), and metabolism, as in the competition for cytochrome P450 enzymes (e.g., SSRIs and certain beta-blockers

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#### **Drug interactions**

Interactions between drugs can lead to serious unwanted effects or to a reduction in the therapeutic effects of some drug substances. Polypharmacy, which is common in elderly patients, increases the risk substantially.

#### **Causes of unwanted drug effects and interactions**

* Wrong choice of drug
* Failing to take account of renal function
* Wrong dosage
* Wrong route of administration
* Errors in taking the drug
* Transmission errors

QNO:: 2

(A)

ANS:: Hyperglycemic Agent

Antihypoglycemics come in a variety of forms, including Glucola, Gluco-Stat, Insta-Glucose, nondiet cola beverages, fruit juices, granulated sugar, and tubes of decorative icing.

From: Medical Emergencies in the Dental Office (Seventh Edition), 2015

Related terms:

HypoglycemiaTaurineHyperglycemiaGluconeogenesisGlucoseDiabetes MellitusHydrocortisoneGlucagonInsulin

**Hypoglycaemia**

, also known as **low blood sugar**, is a fall in [blood sugar](https://en.m.wikipedia.org/wiki/Blood_sugar) to levels below normal.[[1]](https://en.m.wikipedia.org/wiki/Hypoglycemia#cite_note-NIH2008-1) This may result in a variety of [symptoms](https://en.m.wikipedia.org/wiki/Symptoms) including clumsiness, trouble talking, confusion, [loss of consciousness](https://en.m.wikipedia.org/wiki/Loss_of_consciousness), [seizures](https://en.m.wikipedia.org/wiki/Seizures) or death.[[1]](https://en.m.wikipedia.org/wiki/Hypoglycemia#cite_note-NIH2008-1) A feeling of hunger, sweating, shakiness and weakness may also be present.[[1]](https://en.m.wikipedia.org/wiki/Hypoglycemia#cite_note-NIH2008-1) Symptoms typically come on quickly

**(B)Antiemetic**.

An antiemetic is a drug that is effective against vomiting and nausea. Antiemetics are typically used to treat motion sickness and the side effects of opioid analgesics, general anaesthetics, and chemotherapy directed against cancer

[ dimenhydrinate (Dramamine, Gravol)

diphenhydramine (Benadryl)

meclizine (Bonine)

promethazine (Phenergan)

**(C)**

Guaifenesin belongs to a **class of drugs** known as expectorants. It works by thinning and loosening **mucus** in the airways, clearing congestion, and making breathing easier. Dextromethorphan belongs to a **class of drugs** known as **cough** suppressants. It acts on a part of the brain (**cough** center) to reduce the urge to **cough**

Drugs Used to Treat Cough

|  |  |  |
| --- | --- | --- |
| Drug name | Rx / OTC | Rating |
| Mucinex | Rx/OTC | 5.7 |
| Generic name: guaifenesin systemic Drug class: expectorants For consumers: dosage, side effects For professionals: Prescribing Information  Guaifenesin belongs to a class of drugs known as expectorants. It works by thinning and loosening mucus in the airways, clearing congestion, and making breathing easier. Dextromethorphan belongs to a class of drugs known as cough suppressants  QNO::3  Ans:: | | |

**Top 10 List of Antibiotic Classes (Types of Antibiotics)**

* Penicillins.
* Tetracyclines.
* Cephalosporins.
* Quinolones.
* Lincomycins.
* Macrolides.
* Sulphonamides’.
* Glycopeptides

## Top 10 List of Common Infections Treated with Antibiotics

1. [**Acne**](https://www.drugs.com/condition/acne.html)
2. [**Bronchitis**](https://www.drugs.com/condition/bronchitis.html)
3. [**Conjunctivitis (Pink Eye)**](https://www.drugs.com/condition/conjunctivitis.html)
4. [**Otitis Media (Ear Infection)**](https://www.drugs.com/condition/otitis-media.html)
5. [**Sexually Transmitted Diseases (STD’s)**](https://www.drugs.com/condition/sexually-transmitted-disease.html)
6. [**Skin or Soft Tissue Infection**](https://www.drugs.com/condition/skin-or-soft-tissue-infection.html)
7. [**Streptococcal Pharyngitis (Strep Throat)**](https://www.drugs.com/condition/strep-throat.html)
8. [**Traveler’s diarrhea**](https://www.drugs.com/condition/traveler-s-diarrhea.html)
9. [**Upper Respiratory Tract Infection**](https://www.drugs.com/condition/upper-respiratory-tract-infection.html)
10. [**Urinary Tract Infection**](https://www.drugs.com/condition/urinary-tract-infection.html)

## (**B)**

**Viral replication**

is the formation of biological [viruses](https://en.m.wikipedia.org/wiki/Virus) during the infection process in the target host cells. Viruses must first get into the cell before viral replication can occur. Through the generation of abundant copies of its [genome](https://en.m.wikipedia.org/wiki/Genome) and packaging these copies, the virus continues infecting new hosts. Replication between viruses is greatly varied and depends on the type of genes involved in them. Most DNA viruses assemble in the nucleus while most RNA viruses develop solely in cytoplasm.[[1]](https://en.m.wikipedia.org/wiki/Viral_replication#cite_note-1)

**steps**

* Viral replication involves six steps: attachment, penetration, uncoating, replication, assembly, and release.
* During attachment and penetration, the virus attaches itself to a host cell and injects its genetic material into it.
* During uncoating, replication, and assembly, the viral DNA or RNA incorporates itself into the host cell’s genetic material and induces it to replicate the viral genome.
* During release, the newly-created viruses are released from the host cell, either by causing the cell to break apart, waiting for the cell to die, or by budding off through the cell membrane.

QNO::4

ANS::**( A)Antihypertensives**

 are a class of [drugs](https://en.m.wikipedia.org/wiki/Medication) that are used to treat [hypertension](https://en.m.wikipedia.org/wiki/Hypertension) (high blood pressure).[[1]](https://en.m.wikipedia.org/wiki/Antihypertensive_drug#cite_note-1) Antihypertensive therapy seeks to prevent the complications of high blood pressure, such as [stroke](https://en.m.wikipedia.org/wiki/Stroke) and [myocardial infarction](https://en.m.wikipedia.org/wiki/Myocardial_infarction). Evidence suggests that reduction of the [blood pressure](https://en.m.wikipedia.org/wiki/Blood_pressure) by 5 mmHg can decrease the risk of stroke by 34%, of [ischaemic heart disease](https://en.m.wikipedia.org/wiki/Ischaemic_heart_disease) by 21%, and reduce the likelihood of [dementia](https://en.m.wikipedia.org/wiki/Dementia), [heart failure](https://en.m.wikipedia.org/wiki/Heart_failure), and [mortality](https://en.m.wikipedia.org/wiki/Death) from [cardiovascular disease](https://en.m.wikipedia.org/wiki/Cardiovascular_disease).[[2]](https://en.m.wikipedia.org/wiki/Antihypertensive_drug#cite_note-2) There are many classes of antihypertensives, which lower blood pressure by different means. Among the most important and most widely used medications are [thiazide](https://en.m.wikipedia.org/wiki/Thiazide) [diuretics](https://en.m.wikipedia.org/wiki/Diuretic), [calcium channel blockers](https://en.m.wikipedia.org/wiki/Calcium_channel_blocker), [ACE inhibitors](https://en.m.wikipedia.org/wiki/ACE_inhibitor), [angiotensin II receptor antagonists](https://en.m.wikipedia.org/wiki/Angiotensin_II_receptor_antagonist) (ARBs), and [beta blockers](https://en.m.wikipedia.org/wiki/Beta_blocker).

Which type of medication to use initially for hypertension has been the subject of several large studies and resulting national guidelines. The fundamental goal of treatment should be the prevention of the important [endpoints](https://en.m.wikipedia.org/wiki/Clinical_endpoint) of hypertension, such as heart attack, stroke and heart failure. Patient age, associated clinical conditions and end-organ damage also play a part in determining dosage and type of medication administered.[[3]](https://en.m.wikipedia.org/wiki/Antihypertensive_drug#cite_note-nps02-3) The several classes of antihypertensive differ in side effect profiles, ability to prevent endpoints, and cost. The choice of more expensive agents, where cheaper ones would be equally effective, may have negative impacts on national healthcare budgets.[[4]](https://en.m.wikipedia.org/wiki/Antihypertensive_drug#cite_note-budget-4) As of 2018, the best available [evidence](https://en.m.wikipedia.org/wiki/Evidence-based_medicine) favors low-dose thiazide diuretics as the [first-line treatment](https://en.m.wikipedia.org/wiki/First-line_treatment) of choice for high blood pressure when drugs are necessary.[[5]](https://en.m.wikipedia.org/wiki/Antihypertensive_drug#cite_note-Cochrane-5) Although clinical evidence shows calcium channel blockers and thiazide-type diuretics are preferred first-line treatments for most people (from both efficacy and cost points of view), an ACE inhibitor is recommended by [NICE](https://en.m.wikipedia.org/wiki/NICE) in the UK for those under 55 years old.[[6](https://en.m.wikipedia.org/wiki/Antihypertensive_drug#cite_note-6)

* enalapril (Vasotec)
* captopril (Capoten)
* lisinopril (Zestril and Prinivil)
* benazepril (Lotensin)
* quinapril (Accupril)
* perindopril (Aceon)
* ramipril (Altace)
* trandolapril (Mavik

**(B)**

Yirga Legesse Niriayo, Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing, Kabaye Kumela, Conceptualization, Data curation, Formal analysis, Investigation, Project administration, Supervision, Validation, Visualization, Writing – review & editing, [...], and Mulugeta Tarekegn Angamo, Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Supervision, Validation, Visualization, Writing – review & editing

**Drug therapy problems** (**DTPs**) (or **drug related problems, DRPs**) represent the categorization and definition of clinical problems related to the use of [medications](https://en.m.wikipedia.org/wiki/Medications) or "drugs" in the field of [pharmaceutical care](https://en.m.wikipedia.org/wiki/Pharmaceutical_care).[[1]](https://en.m.wikipedia.org/wiki/Drug_therapy_problems#cite_note-1) In the course of clinical practice, DTPs are often identified, prevented, and/or resolved by [pharmacists](https://en.m.wikipedia.org/wiki/Pharmacists) in the course of [medication therapy management](https://en.m.wikipedia.org/wiki/Medication_therapy_management), as experts on the safety and efficacy of medications, but other [healthcare professionals](https://en.m.wikipedia.org/wiki/Healthcare_professionals) may also manage DTPs.[[2]](https://en.m.wikipedia.org/wiki/Drug_therapy_problems#cite_note-2)

A drug-therapy (related) problem can be defined as an event or circumstance involving [drug](https://en.m.wikipedia.org/wiki/Drug) [treatment](https://en.m.wikipedia.org/wiki/Therapy) ([pharmacotherapy](https://en.m.wikipedia.org/wiki/Pharmacotherapy)) that interferes with the optimal provision of medical care. In 1990, L.M. Strand and her colleagues (based on the previous work of R.L Mikeal[[3]](https://en.m.wikipedia.org/wiki/Drug_therapy_problems#cite_note-3) and D.C Brodie,[[4]](https://en.m.wikipedia.org/wiki/Drug_therapy_problems#cite_note-4) published respectively in 1975 and 1980) classified the DTPs into eight different categories. According to these categories, pharmacists generated a list of the DTPs for each patient. As a result, pharmacists had a cleaner picture of the patient's drug therapy and medical conditions. A second publication of R.J Cipolle with L.M Strand in 1998, change the eight categories into seven, grouped in four Pharmacotherapy needs: indication, effectiveness, safety and